Department of Defense
Voluntary Protection Programs Center of Excellence

DoD VPP CX

Globally Harmonized System (GHS) of Classification and Labeling of Chemicals

Conference Name
Conference Location

Welcome

Objectives

- This presentation will:
  - Provide an overview of the intent of GHS to create a uniform international guidance for the classification and labeling of chemicals.
  - Review how existing regulations, such as Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (HCS), have been revised to become current with GHS requirements.
  - Discuss how GHS requirements are relevant to the Voluntary Protection Programs (VPP).

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Housekeeping

- Introduce the speakers.
- Review safety evacuation information.
- Inform attendees to shut off electronic devices.

The History and Need for GHS

What is GHS?

- Globally Harmonized System.
- An international standard to streamline the way hazards are understood.
- A standardized approach to labeling containers and communicate safety information.
- The new elements that have been incorporated into OSHA's HCS and other regulations.

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What is GHS?

- GHS covers all hazardous chemicals - there are **NO** exceptions.
- Being covered under GHS is not dependent on the amount of the chemical or the number of employees working at the site.

The Need for GHS

- In the U.S., the HCS is a regularly cited regulation by OSHA; it has ranked in the top 10 violations over the past three years.
- Potential repercussions:
  - Fines associated with violations.
  - Potential risk and liability from an injury or illness from occurring.
  - Down time when a mishap occurs.
  - A negative corporate image and lost revenues.

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GHS Timetable

- The table below summarizes the phase-in dates required under the revised HCS:

Effective Completion Date	Requirement(s)	Who
December 1, 2013	Train employees on the new label elements and safety data sheet (SDS) format	Employers
June 1, 2015* **December 1, 2015**	Compliance with all modified provisions of this final rule, except: The Distributor shall not ship containers labeled by the chemical manufacturer or importer unless it is a GHS label	Chemical manufactures, importers, distributors and employers
June 1, 2016	Update alternative workplace labeling and hazard communication program as necessary, and provide additional employee training for newly identified physical or health hazards	Employers
Transition Period to the effective completion dates noted above	May comply with either 29 CFR 1910.1200 (the final standard), or the current standard, or both	Chemical manufacturers, importers, distributors and employers

*This date coincides with the EU implementation date for classification of mixtures.

GHS Goals

- The implementation of GHS on a global level is expected to:
  - Boost safety and health among all types of workers.
  - Raise awareness of the surroundings.
  - Reduce injuries and illnesses.
  - Decrease the costs associated with injuries and illnesses.
  - Streamline the hazard communication requirements so every participating country relays information in the same manner .
  - Ease compliance-related issues and facilitate trade.
  - Encourage the safe transport, handling, and use of hazardous products.
  - Reduce extensive testing and evaluation of products that are exported because they will all be compared against the same set of standards.

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GHS Elements & Changes to the HCS

Main HCS/GHS Elements

- GHS elements have been incorporated into OSHA's HCS.
- The HCS program elements are used to communicate information to the workforce.
- These elements include:
  - A written program
  - Labels on containers
  - Pictograms
  - Material Safety Data Sheets (MSDS)
  - Training for employees.

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Changes to the HCS

- The changes to the HCS include:
  - Evaluating hazard classification and hazard groups.
  - Updating existing Hazard Communication Programs to incorporate revisions to the HCS.
  - Streamlining the pictures and labels used on hazardous chemicals so they will be recognized on an international level.
  - Referring to MSDS as Safety Data Sheets (SDS).
  - Following the 16-section format for preparing SDS.
  - Incorporating GHS elements and HCS revisions into hazard communication training.

Hazard Classifications

GHS Hazard Classifications

- The new classification system creates a uniform standard for classifying the hazards of hazardous products.
- The system focuses on three main hazards:
  - Health
  - Physical
  - Environmental.

GHS Hazard Classifications

HAZARD →

HAZARD → CLASSES

Health	Physical	Environmental
• Acute toxicity • Skin corrosion/irritation • Serious eye damage/eye irritation • Respiratory/skin sensitivity • Germ cell mutagenicity • Carcinogenicity • Reproductive toxicology • Target organ - systemic toxicity single exposure • Target organ - systemic toxicity repeated exposure • Aspiration toxicity	• Explosives • Flammable gases • Flammable aerosols • Oxidizing gases • Gases under pressure • Flammable liquids • Flammable solids • Self-heating substances • Substances which, in contact with water, will emit flammable gases • Oxidizing liquids • Oxidizing solids • Organic peroxides • Corrosive to metals • Self-reactive substances • Pyrophoric liquids • Pyrophoric solids	• Hazards to aquatic environment • Acute aquatic toxicity • Chronic aquatic toxicity • Bioaccumulation potential • Rapid degradability

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Labeling

Container Labels

PRODUCT ABC

DANGER
Toxic if swallowed
Flammable liquid and vapor
Contains: XYZ

Do not taste or swallow. Get medical attention. Do not take internally. Wash thoroughly after handling. Keep away from heat, sparks and flame. Keep containers closed. Use only with adequate ventilation.

FIRST AID: If swallowed, induce vomiting immediately, as directed by medial personnel. Never give anything by mouth to an unconscious person.

See Safety Data Sheet for further details regarding sage use of this product.
Company Name, Address, Phone number

HAZARDS (Liquid): flammable liquid, flash point = 120 F; oral LD 50 = 275 mg/kg

Secondary & Portable Containers

- Performance-based approach.
  - OSHA will tell you the outcome, but it is left up to you as to how it is achieved.
- You can:
  - Replicate the manufacturer's GHS label.
  - Use other labeling systems that include the required GHS information.
- Labels can be affixed to containers or displayed in a noticeable area.
- Labels are not required on portable containers intended for IMMEDIATE USE ONLY.

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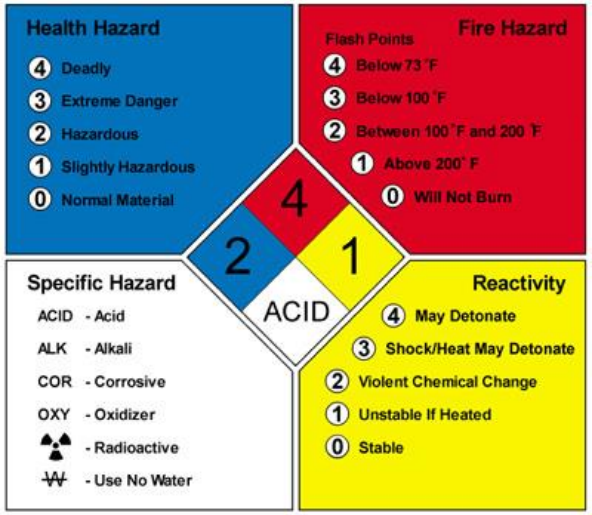
Other Labeling Methods

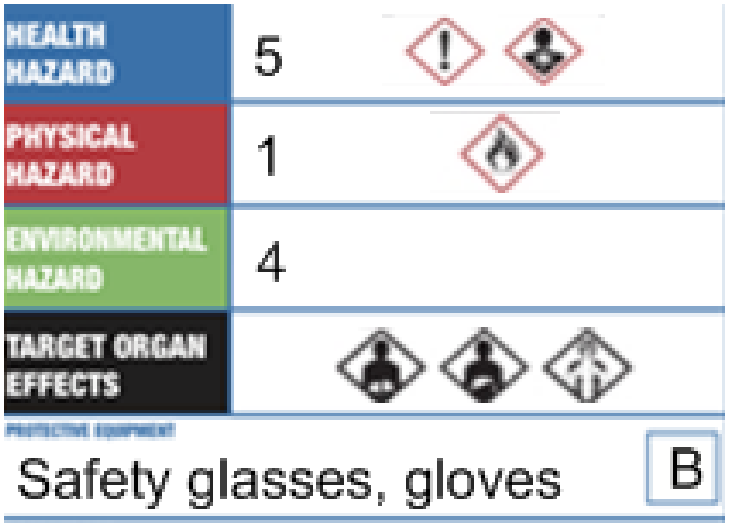
- NFPA and HMIS labeling systems will be adjusted to account for GHS (*pictograms, signal words*).
- NFPA/HMIS labels
  - The greater the severity, the ***higher*** the hazard number.
- For GHS labels:
  - The greater the severity, the ***lower*** the hazard number.



Other Labeling Methods - GHMIS

Color	Information	What it Means
Blue	Health	*How harmful is the product to your health?*
Red	Physical	*What physical hazards does this product have?*
Green	Environmental	*How will this material impact the environment?*
Black	Target Organ Effects	*Which organs will be targeted upon exposure?*
White	Protection Equipment	*What types of PPE are required when handling this product?*

1 = Danger
2 = Danger
3 = Warning
4 = Warning
5 = Warning



Pictograms

Pictograms Representing Hazards

- Carcinogen
- Respiratory sensitizer
- Reproductive toxicity
- Target organ toxicity
- Mutagenicity
- Aspiration toxicity

- Flammables
- Self reactive
- Pyrophoric
- Self-heating
- Emits flammable gas
- Organic peroxides

- Irritant
- Dermal sensitizer
- Acute toxicity (harmful)
- Respiratory tract
- Irritation

- Acute toxicity (severe)

- Corrosives

- Gases under pressure

- Oxidizers

- Environmental toxicity

- Explosives
- Self reactive
- Organic peroxides

Transporting Dangerous Goods

Hazard	Transport Symbols
Explosion	
Flammability: Liquid, Solid, Gas, Pyrophoric, Emit Flammable Gas	
Oxidizer: Organic peroxide	
Gas under pressure	
Corrosive to metals	
Environmental	

Safety Data Sheets

Safety Data Sheets

- SDS are to be provided for:
  - All substances/mixtures meeting GHS harmonized criteria for physical, health, and environmental hazards
  - Mixtures containing substances meeting criteria for carcinogenicity, toxicity for reproduction or specific target organ toxicity, in concentration exceeding cut-off values
  - Other substances/mixtures not meeting the criteria for classification as hazardous but containing hazardous substances in certain concentrations.

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Elements of a SDS

- The SDS contains the following information:

SECTION	TITLE	SECTION	TITLE
1	Product and Company Identification	9	Physical and Chemical Properties
2	Hazards Identification	10	Stability and Reactivity
3	Composition	11	Toxicological Information
4	First Aid Measures	12	Ecological Information
5	Firefighting Measures	13	Disposal Considerations
6	Accidental Release Measures	14	Transport Information
7	Handling and Storage	15	Regulatory Information
8	Exposure Controls/PPE	16	Other Information

Training

Training Requirements

- Employees exposed to the product must be trained:
  - Product handlers, works coming into contact with products, emergency responders, and any other worker that can become exposed at any time.
- Training should include information about:
  - Hazard classification
  - Pictograms
  - Labeling
  - SDSs.

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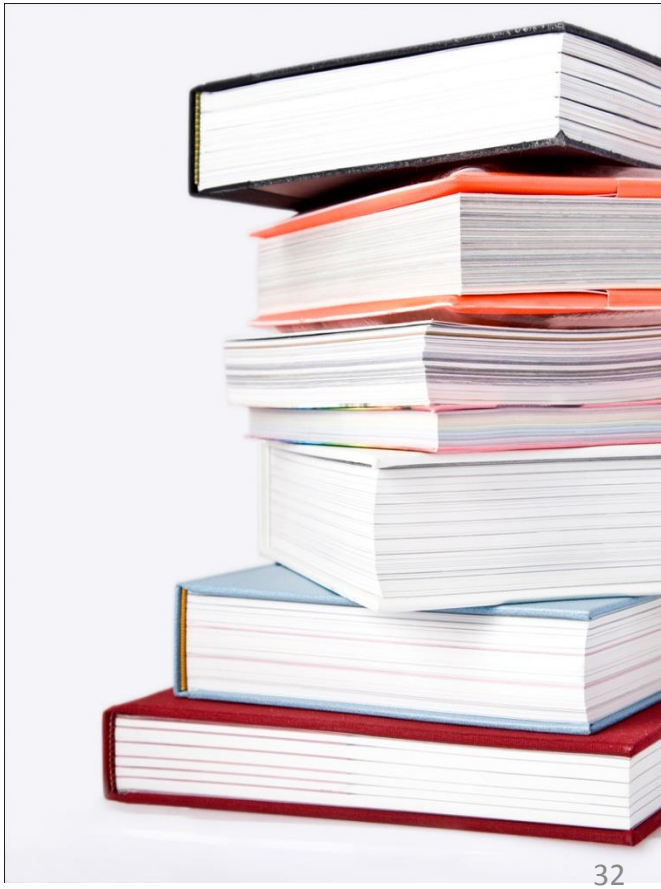
Training Requirements

- Revise the training provided to the workforce by following the updated HCS (29 CFR 1910.1200).
- Target date for educating the workforce: **December 1, 2013.**

Incorporating GHS into an Existing Hazard Communication Program

Steps to Update Your HCP

- Follow these steps to incorporate GHS into an existing Hazard Communication Program (HCP):
  1. Read the revised HCS
  2. Develop an action plan
  3. Assess information provided on the SDS
  4. Train the workforce.



GHS and VPP

How Will GHS Affect VPP?

- Worksites that have achieved VPP recognition, *or are working toward VPP recognition*, will have to ensure that the GHS elements are incorporated into the existing HCPs.

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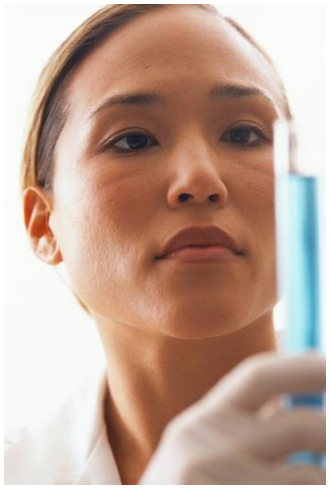
Management Leadership & Employee Involvement

- **Contractors –** The employer has a right to know about the hazardous chemicals that are at the worksite.



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Worksite Analysis

- **Chemical Inventory** – Create chemical inventories for all hazardous chemicals in the workplace.
- **SDS** – Keep on file for every chemical in the workplace.
- **Hazard Analysis –** Documentation should be kept up-to-date to reflect any hazards of chemical products.
- **Routine Inspections –** During walkthroughs and inspections, look for labels on containers, ensuring chemical inventory lists are posted in areas where hazardous chemicals are stored, and making sure SDSs are available to the workers.

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Hazard Prevention & Control

- **Hazard Prevention –** Labeling chemical containers at a worksite will continue.

Safety & Health Training

- **Training Needs Assessment –** Verify that all workers coming in contact with chemical products receive updated Hazard Communication Training.
- **Training Program Development –** Ensure the GHS elements are incorporated into existing training to address the hazards for all workers that have contact with, or work near, a chemical product.

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Conclusion

Conclusion

- Read through OSHA's updated HCS.
- Train the workforce on basic GHS requirements by December 1, 2013.
- Be aware that all worksites (*chemical manufacturers and distributors*) must have GHS elements in place by December 1, 2015.
  - There may be times where GHS and non-GHS labels, pictograms, and SDS are observed
- Update your HCP to ensure all the changes from the HCS are incorporated into your program.

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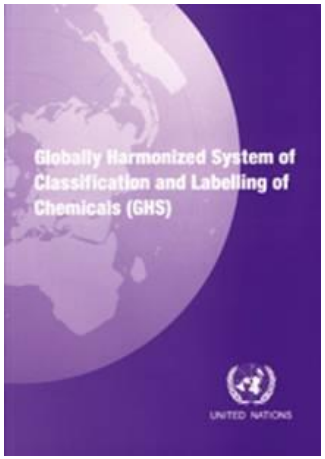
Helpful Resources

- The Purple Book
  - http://www.osha.gov/dsg/hazcom/ghs.html
- OSHA Quick Cards for GHS
  - http://www.osha.gov/dsg/hazcom/ghsquickcards.html
- OSHA's Hazard Communication/ GHS Information Page
  - http://www.osha.gov/dsg/hazcom/index.html
- OSHA, 29 CFR 1910.1200
  - http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10099



QUESTIONS??

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